

PX47

Coinbase/TonLabs

1 October 2019

Pavel P created group «Coinbase/TonLabs» with members Pavel P, Zach Segal, Patrick O'Grady, Nick de Bontin, Bam, Nemil Dalal, Mitja, Dmitry and Alexander Filatov

Pavel P changed group photo



PP

13:02

Pavel P

Hi there! I created more technical group as we talked earlier today.

B

13:02

Bam

L

13:02

Fantastic

PP

13:02

Pavel P

Please add whoever people you need)

B

13:03

Bam

<-- This is Brock from the call earlier. I am leading the effort from the technical integration side.

13:03

I will add the other technical folks. Thanks for starting the channel here.

Bam invited Breg

Bam invited Mark Nesbitt

Bam invited Austen Greene

PP

13:05

Pavel P

Node_EE_Subscriptions_Sep_2019.pdf

Not included, change data exporting settings to download.

1.5 MB

Bam invited Don

PP

13:07

Pavel P

Please see attached our subscription approach. SLA should be available tomorrow.

AF

13:15

Alexander Filatov

Obviously it's not about money :). We need to build a sustainable story. Happy to kick-off a joint journey!

B

13:15

Bam

Thanks for sharing! We will review the agreement and get back to you with any questions etc. L

13:16

We appreciate the quick turnaround on this

3 October 2019

M

09:01

Mitja

Hey everyone. I will start adding folks from our team here today. We will prepare something for you before tomorrows morning your time.

09:01

I will write later how the delivery will look like

B

09:02

Bam

OK - Looking forward to it. Thanks @Eutuzi

B

13:56

Bam

Hi TON Labs folks - Here is a list of follow-ups we discussed at the call yesterday. These will be very helpful to us as we move forward with integration.

Thank you in advance!

13:56

CB __ TON Labs - Requests.pdf

Not included, change data exporting settings to download.

28.8 KB

AF

13:59

Alexander Filatov

In reply to [this message](#)

[@bam123](#) well received

B

13:59

Bam

L

14:05

Also - I was actually able to pull the GraphQL schema from NodeSE directly, so provided that hasn't changed, you can ignore that request for now L

4 October 2019

B

04:28

Bam

Hi [@Euturiz](#) - Any update on delivery of code? Thanks!

M

04:29

Mitja

Working on that. Will update you today as promised.

B

04:30

Bam

Thank you L

Mitja invited Maria Kondorskaya

M

06:56

Mitja

Maria is our Content Lead she will start sharing some documents with you. And please any comments regarding our documentation please direct to Maria.

Mitja invited Ann

M

06:57

Mitja

Anna is our Scram Master and she will coordinate all the mutual activities whenever needed and facilitate communications from here.

Mitja invited Nikita Monakhov

M

06:59

Mitja

Nikita is Smart Contract lead also a persone responsible for Linker.

MK

07:01

Maria Kondorskaya

Hi, our official documentation is available at docs.ton.dev. As far as I am informed, you were interested in replay attack protection options, the topic is at <https://docs.ton.dev/86757ecb2/p/56d0f0>

B

07:02

Bam

Hi all L. Nice to meet you Maria, Anna, and Nikita

ND

07:10

Nemil Dalal

CB __ TON Labs - Requests.pdf

Not included, change data exporting settings to download.

28.8 KB

07:10

Мария, очень приятно. Our full list of requests is here, including documentation on gas and solidity compiler.

07:11

[@condor_the_bird](#)

MK

07:27

Maria Kondorskaya

ok, taken, now you can check the doc on gas we have at <https://docs.ton.dev/86757ecb2/p/502079>.

A

07:46

Ann

Hi all, nice to meet you

B

07:50

Bam

The replay protection and gas docs are well received -- thank you!

NM

08:11

Nikita Monakhov

Hi all!

08:11

Nice to meet you

MK

09:50

Maria Kondorskaya

hi again, we are working on your questions. While waiting for responses you can check our new doc on storage fees in TON

<https://docs.ton.dev/86757ecb2/p/420f20>

B

10:08

Bam

Thanks Maria -- will take a look

10:09

Do you still expect us to receive any of the source code today?

MK

10:18

Maria Kondorskaya

I am more on the natural language side, so cannot give an exact answer about whether the source code is ready. Probably, @Futurizt can give an update.

B

10:50

Bam

Thanks Maria

B

12:48

Bam

Hi @Futurizt @Alexander_Filalov - Do you guys have any insight into how investors will receive/claim their allocation when the network launches? We know that they were instructed to provide an armored ed25519 public key by 10/16. How will the withdrawal/claiming process actually work after launch?

M

15:46

Mitja

<https://github.com/tonlabs/TON-SDK>

15:46

SDK Core is open source now

15:47

Further_to_Coinbase_Requests.pdf

Not included, change data exporting settings to download.

859.3 KB

15:48

Here are some answers with links to SDK repos

Mitja invited Алексей Вавилин

M

15:54

Mitja

Alexei is SDK Core lead and as most of the folks is asleep now

15:54

(I hope)

15:58

(Well I should not say its Open Source yet actually, its Source Available provided under Evaluation License and the Open Source Licence is not determined yet.) — just for clarity.

B

16:21

Bam

Thank you for this! We will review now

AB

17:05

Алексей Вавилин

Hello from Penza ☺

5 October 2019

M

09:43

Mitja

09:43

To the question of gas consumption we spoke about earlier.

6 October 2019

Maria Kondorskaya changed group photo



7 October 2019

ND

06:01

Nemil Dalal

[@Futuriz1](#) Thanks for the SDK. Could we get the full node today?

M

06:37

Mitja

Nemil we are still working on integration of our components with latest patches. Can't give you exact timeframe now.

Mitja invited Barsik

B

09:13

Bam

Hi Folks, when I run `cargo test` from the SDK repo I receive the following error. Is it expected?

```
cargo test
warning: /Users/brockmiller/src/telegram/TON-SDK/ton_client/client/Cargo.toml: unused manifest key: package.rpath
Updating crates.io index
Updating git repository `ssh://git@github.com/tonlabs/sdk-emulator.git`
error: failed to load source for a dependency on `tvm`
```

Caused by:

Unable to update `ssh://git@github.com/tonlabs/sdk-emulator.git?branch=feature-dev`

Caused by:

failed to fetch into `/Users/brockmiller/.cargo/git/db/sdk-emulator-09d3f0335b0b4b3b`

Caused by:

failed to authenticate when downloading repository
attempted ssh-agent authentication, but none of the usernames `git` succeeded

Caused by:

```
ERROR: Repository not found.
; class=Ssh {23}; code=Eof {-20}
```

Mitja invited Ekaterina Pantaz

M

09:14

Mitja

[@EkaterinaPantaz](#) is SDK product owner

09:16

In reply to [this message](#)

The sdk-emulator is not an Open source yet.

09:17

The source code I provided before was about the question you asked about crypto modules etc.

B

09:19

Bam

Yep ok thanks [@Futuriz1](#). Do you intend for it to be open source eventually?

M

09:19

Mitja

Of course. Its our implementation of TVM in Rust

09:20

Just need some clean up and will open it

B

09:22

Bam

OK sounds good

M

10:04

Mitja

T

TON.Dev 07.10.2019 10:03:50

Brand new update of TON.Dev set of tools :)

Local Node

- Bug fixes in GraphQL service.
- Gas cost optimizations in the TVM.

Client Libraries

- Shared Client Instance is removed from ton-client-js because of its redundancy. It is not accessible from JS bindings any more. See the Upgrade Guide below.

- All JavaScript unit tests are moved from `ton-client-node-js` to `ton-client-js` repo.

CLI

- Dramatic changes in the source code. New commands added:

`restart` to restart containers.

`recreate` to recreate containers.

Called without parameters, `tondev` is similar to the `info` command.

Component Versions

tonlabs/local-node:0.12.1 (ton-q-server:0.12.0)

tonlabs/compiler:0.12.1

ton-client-node-js:0.12.1

ton-client-js:0.12.1

ton-client-rs: 0.12.100 with binaries 0.12.100

ton-dev-cli:0.12.3

Notice that if you used TONClient.shared, it need to be changed. See Update Guide for JS Projects section.

E

11:38

Ekaterina Pantaz

Hello everyone :)

B

13:35

Bam

└ Nice to meet you!

ND

14:35

Nemil Dalal

Thanks @Futurizt really appreciate it. Quick follow up, I know eng deadlines are hard to predict, but do you have a potential week we might get it (this week, next week, week after mainnet launch)? Will help us plan. Also, we are happy to get something very rough, have worked with alpha nodes in prev projects.

M

14:36

Mitja

We are talking days not weeks. We dont have weeks

ND

14:37

Nemil Dalal

└└

M

14:37

Mitja

We stabilize current release we get it to you. It may be nasty but you start by the time you deploy we ship an update. Thats how I see this.

ND

14:39

Nemil Dalal

Excellent, that would be great. Спасибо!

M

14:42

Mitja

על לא דבר

14:42

└

ND

14:43

Nemil Dalal

😊

8 October 2019

B

17:33

Bam

Hi @concord_the_bird אנאצני @Futurizt - Could you help me understand a bit more about the gas mechanics on-chain? Based on your documentation

and my understanding from the white paper, there is a gas limit on transactions/transfers but this is not set by the sender but is a function of the transfer amount or contract balance. Do senders/contracts have any ability to set an upper limit on the gas consumed by a transaction?
9 October 2019

NM

02:50

Nikita Monakhov

└ contracts can set upper gas limit in msg.value (in nanograms), but receiver contract can increase this limit buying more gas (accept cmd)

02:55

In case of external messages we cannot set gas limit. It will be automatically calculated as min of contract balance or global gas limit per transaction.

B

04:32

Bam

@Keshoid Thank you for the response! So in case of internal message which is a simple transfer of nanograms, it seems that the gas limit is just a direct function of the transfer amount, correct (ie we can't separately set a gas limit and a transfer value in single message)?

NM

05:36

Nikita Monakhov

└ exactly

Nd

10:19

Nick de Bontin

Hi team, quick question. Can you confirm that the requested public keys are Ed25519 public keys?

And can you confirm whether a seed is derived from the mnemonic using standard BIP39?

M

10:54

Mitja

Ed yes bip39 no

10:55

But it only concerns mnemonics which will be used in Telegram wallet

10:56

So its up to you

Nd

12:12

Nick de Bontin

Do you have a high res image of the TON logo?

M

12:13

Mitja

Only ours :)

Nd

12:13

Nick de Bontin

Ton Labs you mean?

12:13

Is there an official logo for TON?

M

12:13

Mitja

Yes

12:14

Well, not really but there is an icon that Telegram uses

Nd

12:14

Nick de Bontin

Do you have that one?

Mitja invited Eugene Téslov

M

12:15

Mitja

Eugene is our designer

12:15

@Eteslov can you please give some hires logo for Gram?

Nd

12:38

Nick de Bontin

Let me know if this is something you could send in the next 20ish minutes

12:38

Otherwise we will go with what we have

ET

12:48

Eugene Tèslov

Hi there. Unfortunately, Telegram is very cautious about its logos, so we don't have them. All we can get is a screenshot of this sticker.

12:48

Sticker

Not included, change data exporting settings to download.

L, 5.2 KB

12:53

2.png.zip

Not included, change data exporting settings to download.

6.6 KB

12:54

512×512

Nd

12:59

Nick de Bontin

Ok thanks

10 October 2019

B

11:55

Bam

@Kashid - Do you have any insight into the various send modes for `SENDRAWMSG` ?

11:55

I'm trying to understand various failure scenarios and if that call fails when `mode=0`, then the internal contract state fails to update and we risk the failed message being replayed until the account is drained.

11:57

Looking at docs, `mode=2` is supposed to "ignore errors" such that the contract state will get updated even if the msg fails to send. I've verified this behavior manually with a tiny contract, but by changing the mode to 2 I'm now seeing some additional fees taken out of my transfer amount (specifically my transfer amt is reduced by 0.001 grams which is the `total_fwd_fee`) Do you have any insight here?

CB<>Telegram Exec Chat

18 September 2019

Zach Segal created group «CB<>Telegram Exec Chat» with members Zach Segal, Shyam Parekh, Nemil Dalal and Nick de Bontin

Z

20:03

Zach Segal

Hi all. @ShyamParekh thanks for your time last week. I created this group so there's a direct, focused communication channel between our CB & Telegram exec teams for high priority issues.

Shyam: I can't invite Ilya because of his privacy settings. Can you please invite him?

Shyam Parekh invited Ilya Perekopsky

Z

23:36

Zach Segal

Thanks! We have a few key questions:

Is TON Labs' client implementation a publicly recommended implementation of TON? Are there any guarantees we have that their Rust node will have feature parity with your official implementation?

If there are no guarantees and if their client is not publicly recommended, we would prefer to build on your client directly.

Relatedly, we'd like to open up a line of communication between our engineering team and the official TON devs, specifically to discuss implementation. We recognize you're close to launch and time is limited, but our dev team can stress test TON and potentially identify bugs prior to launch (as we've done for other teams). We'll also do our best to minimize the questions we ask the team. Could you setup a Telegram group for us with at least one engineer on your team?

20 September 2019

Z

12:12

Zach Segal

Hey @ShyamParekh @perekopsky wanted to follow up here on the note above, please let us know

Z

16:32

Zach Segal

@perekopsky we just updated the blog image per your request:<https://blog.coinbase.com/coinbase-continues-to-explore-support-for-new-digital-assets-70419575eac4>

16:32

May take a while for cache'd images to refresh but if you click through it's the updated title.

16:33

Let me know if we can sync on the above questions early next week

23 September 2019

ND

11:37

Nemil Dalal

@ShyamParekh @perekopsky Any thoughts on the questions above? We'll need to understand this to move forward.

SP

15:06

Shyam Parekh

Hi,

Sorry for the delay. So TON Labs is one of several organisations with whom Telegram has been working extensively over the last 6 months to test the TON Network. From this work we believe their node implementation will have the same features as TON. Due to resource constraints, we would please ask you to send your technical questions to them - copying us - and they will coordinate with us to collect the answers into a document which can be shared with you.

ND

15:09

Nemil Dalal

@ShyamParekh will your team publicly indicate this is a recommended node implementation?

24 September 2019

SP

00:20

Shyam Parekh

Hi Nemil, Telegram has never done public endorsements, however, we are happy to speak to anyone who asks you about TON Labs' implementation and tell them the same as above.

2 October 2019

Nd

20:16

Nick de Bontin

Hi [@ShyamParekh](#) & [@perekopsky](#), regarding the communications to investors today. Can you clarify the point about investors having 24 months to provide an address? The communication stipulates October 15th as the deadline for providing an address. We will likely need more time to do key-gen and generate addresses for clients. Can you confirm that this won't be an issue?

3 October 2019

Nemil Dalal invited Bam

IP

08:32

Ilya Perekopsky

In reply to [this message](#)

Hi, but we reminded all investors that they can provide public key within 24 months. We have binding PA with all of them where it is clearly stated.

SP

08:36

Shyam Parekh

Just to add Nick, we are asking for responses by the 16th if investors want to be sure of getting their Grams by the go live date, which is expected very shortly after that date.

Nd

09:08

Nick de Bontin

Got it. So when will investors receive their GRAMs if they provide addresses after the 16th but still before the launch?

09:09

That deadline was never communicated to us and obviously key generation ceremonies to generate addresses requires a lot of logistical planning and oversight

09:09

If let's say Coinbase Custody provides investors addresses after the 16th but before the mainnet launch when would investors receive their tokens?

SP

09:47

Shyam Parekh

In reply to [this message](#)

we have not announced a date yet but it is planned before month end, as has been the intention for some time

Nd

10:01

Nick de Bontin

Sorry I misrepresented my question

10:01

I meant to ask if investors provide their public keys from Coinbase after the 16th will they still be able to receive tokens like everybody else at launch

B

13:29

Bam

Hi [@ShyamParekh](#) and [@perekopsky](#) - I am a tech lead at Coinbase and leading the technical integration with TON. I wanted to check in with you regarding our contract implementation to see if you could help answer some questions, as you are the experts on this. Would you be able to review this and potentially provide some input to our open questions? To the extent that you can help answer any of these questions, it would be very helpful and valuable to us. Thank you in advance!

13:30

Request for Review_ TON Contract Implementation.pdf

Not included, change data exporting settings to download.

72.4 KB

ND

13:32

Nemil Dalal

FYI, @perekopsky we wanted to discuss this one tech topic with your team given that TON Labs will not be providing much support for Fift. My hope is the lift here is light on your team's end, but this is critical for us to integrate with TON.

4 October 2019

SP

08:16

Shyam Parekh

hi we are looking into your questions

ND

09:34

Nemil Dalal

Thank you!

6 October 2019

SP

07:30

Shyam Parekh

In reply to [this message](#)

Nick wanted to follow up on this. We would like to set up a call tomorrow with the relevant people on your side, us, and our legal counsel skadden to discuss the process where investors want to have their grams sent directly through you (as opposed to via a TON wallet first).

Nd

08:08

Nick de Bontin

That'd be great. When would work for you?

SP

09:40

Shyam Parekh

10 am est?

Nd

09:46

Nick de Bontin

Any chance you could accommodate something an hour or two later? Want to accommodate for some team members in PST time zone

SP

10:02

Shyam Parekh

11 am est?

Nd

13:23

Nick de Bontin

In reply to [this message](#)

I am checking with colleagues but I believe that should work. Let's plan on that and I will confirm with you to be sure.

SP

13:25

Shyam Parekh

Ok

Nd

18:03

Nick de Bontin

Hi Shyam, confirmed 11am EST tomorrow morning and just sent you a calendar invite. Looking forward to speaking with you then.

SP

20:08

Shyam Parekh

Thanks. Just double checking all the right skadden folks are available then. Will reconfirm asap

7 October 2019

SP

00:32

Shyam Parekh

confirmed. could you please add ammer@telegram.org, James.E.Perry@skadden.com, Cristina.Vasile@skadden.com, Ryan.Dziemiejko@skadden.com and Eytan.Fisch@skadden.com to the call? thanks

SP

06:56

Shyam Parekh

In reply to [this message](#)

hi just checking you got this Nick. As mentioned if you could add the others in the list to your invite that'd be great

Nd

06:56

Nick de Bontin

Hi Shyam, yes I have added them all to the call

SP

06:56

Shyam Parekh

ah ok great

Nick de Bontin invited Bryce Ferguson

Nd

13:40

Nick de Bontin

Thanks for the call earlier today [@ShyamParekh](#) [@perekopsky](#). I just followed up via email with the list of follow up questions from our call.

B

14:15

Bam

In reply to [this message](#)

Hi [@ShyamParekh](#) - Just bumping this in case you are able to provide any response to our questions. Thank you in advance!

8 October 2019

Nd

23:10

Nick de Bontin

Hi [@ShyamParekh](#) and [@perekopsky](#), following up to see if you were able to review internally if we could provide deposit addresses for clients?

There's a significant degree of urgency here with some clients who are concerned about the 16th deadline.

23:11

Appreciate your help on this.

Coinbase Telegram Gramvault TON Labs

14 September 2019

Shyam Parekh invited Zach Segal

Shyam Parekh invited Nemil Dalal

Shyam Parekh invited Ilya Perekopsky

Shyam Parekh invited Alexander Filatov

Shyam Parekh invited Oleg Seydak

SP

11:25

Shyam Parekh

Hi everyone as discussed on the call on Friday I've set up a chat

Z

11:27

Zach Segal

Hi Shyam, thanks for setting this up! I'll be inviting a few of our security and software engineers here who have a few technical questions. Appreciate your help!

IP

11:31

Ilya Perekopsky

Hi guys!

O

11:32

Oleg Seydak

Hi! Happy to help with the process on the best efforts.

ND

11:32

Nemil Dalal

Privyet @perekopsky, thanks for taking the time on Friday.

AF

22:30

Alexander Filatov

Hi guys, looking forward!

15 September 2019

AF

02:31

Alexander Filatov

In reply to [this message](#)

Zach, Hi, once I see your questions will add the relevant person from TON Labs technical team to support. For clarity we are finalizing enterprise level architecture for exchanges, custodians etc. to be able engage with TON and grams easier. Just for reference the start up edition is here - <https://ton.dev/node-se>

16 September 2019

Zach Segal invited Luke Youngblood

Zach Segal invited Patrick O'Grady

LY

09:23

Luke Youngblood

Sticker

Not included, change data exporting settings to download.

□, 57.0 KB

09:23

are we allowed to use Telegram's fun stickers? 😊

Z

09:23

Zach Segal

Just added two of our engineers. Luke leads our staking efforts and Patrick is an engineer on our crypto team 😊

IP

09:25

Ilya Perekopsky

In reply to [this message](#)

Sticker

Not included, change data exporting settings to download.

□, 29.3 KB

09:25

Sticker

Not included, change data exporting settings to download.

👤, 39.8 KB

09:25

Sure

PO

09:26

Patrick O'Grady

Sticker

Not included, change data exporting settings to download.

□, 7.0 KB

Nemil Dalal invited Breg

Zach Segal invited Annie Ke

Nemil Dalal invited Bam

Zach Segal invited Austen Greene

AG

10:47

Austen Greene

These stickers are huge

10:47

Also hello

Zach Segal invited Paul H

B

11:31

Bam

□

Zach Segal invited Don

Zach Segal invited Mark Nesbitt

Zach Segal invited Leo Arias

Zach Segal invited Nacho

Zach Segal invited alejo salles

Zach Segal invited Peter Kacherginsky

PK

13:04

Peter Kacherginsky

Hi folks

Z

13:05

Zach Segal

Added engineers from our security team

Zach Segal invited Alan Leung

AL

13:06

Alan Leung

Hi

B

15:52

Bam

Hi folks! □ Excited to be on a chat with you all and have some technical discussions around TON. I'm an engineer on the crypto team here at Coinbase and we are looking to stand up some nodes to start interacting with the testnet and query blockchain state. It looks like we have a couple of options here:

1) full node from <https://test.ton.org/>

2) light client from <https://test.ton.org/>

3) Node SE (local only) from TON Labs (<https://ton.dev/node-se>)

For options #1 or #2, is there an RPC interface available that we would be able to query over HTTP? Any pointers or references here would be super helpful. We are mostly looking to fetch blocks, transactions, and balances at this point.

LA

15:53

Leo Arias

Hello everybody. □

B

15:54

Bam

In reply to [this message](#)

[@Alexander_Filatov](#) Do you know when you might release such documentation focused on exchanges?

Zach Segal invited Max

AG

18:48

Austen Greene

Hi TON team, another question - For the client SDKs, is there any support for offline transaction construction and signing? I looked over the js sdk(<https://github.com/tonlabs/ton-client-js>) and it seems to require that you connect to a running node.

Alexander Filatov invited Pavel P

AF

19:31

Alexander Filatov

Folks, Hi, thank you for your questions. Added Pavel who is supervising our technical team at TON Labs. He will answer and/or add an appropriate team member.

B

19:32

Bam

In reply to [this message](#)

□ thank you Alexander

AF

20:26

Alexander Filatov

In reply to [this message](#)

Sticker

Not included, change data exporting settings to download.

□, 42.5 KB

PP

23:50

Pavel P

Hello everyone!

17 September 2019

B

07:10

Bam

In reply to [this message](#)

□

B

09:18

Bam

Hi [@origolovko](#) - Would you be able to answer the above questions for us? Happy to re-post them if that's easier.

MN

09:26

Mark Nesbitt

Hi everyone! I was wondering if anyone could provide general context on TON labs vs the Telegram development team itself vs any other entities involved. Some of the things I feel like I don't have a great handle on are: What is TON labs relationship to the Telegram development team, are there other teams like TON labs supporting Telegram, does TON labs contribute directly to the protocol, etc

LA

09:45

Leo Arias

I have a few questions. Sorry if we are overloading you ☺

09:48

From the whitepaper, *2.3.17. Payment for persistent storage*, I understand that both smart contracts and accounts will have to continuously pay for renting their storage. Is this correct?

ND

09:56

Nemil Dalal

Hi all, I'm the Product Manager on the Coinbase side. We're going to consolidate all these questions into one doc to make this easier. Does it work if we schedule a kickoff call on the technical questions tomorrow or Thursday with the TON Labs team? Figure it'll be faster to go through live. Feel free to ping me some times cc: [@perekopsky](#)

LA

09:57

Leo Arias

Also, it's not clear to me how the Ton coin is used by other workchains. On *2.1.11. Basic workchain or Workchain Zero*, it says that this is the chain used to transfer Ton coins. So, no other workchains are involved in the transfer of Ton coins? However, I understand from *2.1.18. TON coins and multi-currency workchains* that other workchains can pay for gas and storage using Ton coins. How would that work if the accounts are not in the workchain zero?

09:58

[@nemild](#) I will move my other questions to the doc ☐☺

AF

10:24

Alexander Filatov

Guys, looking forward to your consolidated doc indeed. We will also soon share the architecture slide I was talking about above. Then let's do a call indeed.

PP

12:11

Pavel P

In reply to [this message](#)

Yes)

12:17

In reply to [this message](#)

Briefly. TonLabs used TON documentation to make its own implementation of TON node in Rust. We did also node integration with Kafka, ArangoDB, querying via GraphQL with multi-platform SDK. For developers we did 2 compilers: Solidity and LLVM (C, C++ supported at the moment).

12:19

In reply to [this message](#)

1, 2 didn't heard about any RPC support up to now.

12:21

In reply to [this message](#)

Every address in TON is smart contract. Grams used everywhere to pay gas, but at different rate in master-chain and work-chains.

12:22

In reply to [this message](#)

TonLabs is fully independent from Telegram

18 September 2019

PP

05:11

Pavel P

Node_EE_product_brochure.pdf

Not included, change data exporting settings to download.

4.4 MB

05:15

Please see document as promised.

PP

10:43

Pavel P

<https://zoom.us/j/2818424760>

10:43

Colleagues, this is for our call in 45 minutes.

20 September 2019

IP

09:10

Ilya Perekopsky

Hi all, may I ask to change the name of the coin from Telegram to Gram.

<https://blog.coinbase.com/coinbase-continues-to-explore-support-for-new-digital-assets-70419575eac4>

B

09:16

Breg

Yes! CC: [@zosegal](#)

Z

11:57

Zach Segal

[@perekopsky](#) No problem. We will do that ASAP.

IP

13:05

Ilya Perekopsky

Thanks

23 September 2019

ND

11:36

Nemil Dalal

[@Alexander_Filatov](#) just wanted to follow up on our email to get answers to our questions? It's a major blocker for us, and affects whether we can move forward or not. Any chance we can get answers in the next 24 hours and then have a quick chat?

PP

11:58

Pavel P

Nemil, will try to answer tomorrow.

ND

11:58

Nemil Dalal

Appreciate it.

AF

12:59

Alexander Filatov

In reply to [this message](#)

Thanks, Pavel. Indeed. Plus many of the questions relate to the consensus, which as you might know has not been released in its final version, so we addressed those questions to Telegram and are waiting for the answer.

24 September 2019

Alexander Filatov invited Dmitry

PP

15:03

Pavel P

QA_part_I.pdf

Not included, change data exporting settings to download.

105.8 KB

15:06

In reply to [this message](#)

Good night! Please see above answers on your questions. Some questioned were omitted at the moment.

ND

15:13

Nemil Dalal

Thanks [@prigolovko](#). We will review right away, and get back to you. We appreciate this, as all this is critical for our review.

25 September 2019

B

09:59

Bam

Hi @prigolovko - Thanks again for the q&a responses. That was very helpful to get a bunch of our initial questions answered!
10:07

@prigolovko I wanted to follow-up with a few questions about serializing these bags of cells (boc), if you don't mind:

1) Do you have any tooling available to help us serialize and deserialize these bags of cells? (presume that your Rust node has some of this available in it?)

2) Can you help us understand how to go from a compiled contract `StateInit` structure to a properly formatted bag-of-cells message, both a signed one and an unsigned one? A concrete example and/or documentation would be very helpful. For example, if we have the `StateInit` like:

```
StateInit: x{34_}
x{FF00F4A413F4A0F2C80B}
x{2_}
x{D230}
x{F28308D71820D31FED44D0D31FD3FFD15131BAF2A103F901541042F910F2A2F8005120D74A96D307D402FB00DED1A4C8CB1FCBFFC9ED54}
x{0000000099D978412268ACD386414EF57FDB6B0AB1FE01DDD1B26A50B0B9DC5990CF4031}
```

How would that get serialized into a bag of cells and then signed for submitting to the network? We are currently using some of the example tools provided by ton.org but it's not very clear how this happens within the Fift scripts. Thank you in advance!

PP

11:30

Pavel P

Hi Bam! Below the answers:

1) TON Labs SDK has all the tools needed

2) We do not have abilities to support FIFT smart contracts. If you consider to use our Solidity or LLVM C compilers we will be able to provide support.

B

11:34

Bam

Hi @prigolovko - Thank you!

Re: #1 -- The SDK looks like it currently just sends messages to the Node, which then does all the work of constructing the boc and signing etc. Do you plan to provide this support in the SDK outside of the node? We perform all of these operations "offline" as opposed delegating that responsibility to the nodes directly. If the node is performing all of the actual work, is it possible for you to give us an SDK that enables us to do it outside the node?

PP

14:03

Pavel P

SDK is constructing BOC of course. The Node does not sign and create boc. You can perform operations off line -- no problem

B

14:19

Bam

In reply to [this message](#)

Would you be able to point me to where BOC messages are created or signed inside the javascript or rust SDK? In the js SDK, I just see that all calls end up hitting `this.requestLibrary` with some library specified, and that looks like it ends up calling a `TONClientLibrary` module, but it's not clear where these libraries actually exist (they seem to be on the node itself).

B

17:44

Bam

I don't see any code in the SDKs that is actually generating keys locally or constructing boc messages. It seems they are just calling your node (or compilers docker container) to do that for them, so it seems like more of a client to the node. Please correct me if that's not right. @prigolovko

Pointers to where that is happening in the SDK would be helpful if that's incorrect. Thank you! □

PP

17:53

Pavel P

No its totally not the case. We will run you through that tomorrow.

B

17:55

Bam

@origolovko thank you!

B

20:04

Bam

Telegram Q&A Part II.txt

Not included, change data exporting settings to download.

2.5 KB

20:04

@origolovko We are looking forward to your insights regarding the above SDK questions tomorrow. In addition to that, I've compiled some additional questions in a QA doc above (not nearly as big as the last one) that would be great to hear your responses on. Could you kindly respond to these questions as well? It will greatly help our review and ability to work with the asset. Thank you in advance!!

26 September 2019

Pavel P invited Mitja

M

12:38

Mitja

<https://docs.ton.dev/86757ecb2/p/622fdb>

12:38

Some answers

12:40

We found your questions useful for the whole community so we will continue to post answers in our development knowledgebase

B

13:06

Bam

Hi @Futurizt - Thanks for posting. We'll review and get back to you.

13:08

Hi @Futurizt - Regarding

>>> Keys are generated in the Rust core library running on a client device. The message BOC construction code is also located there.

13:08

Can we get access to this code?

M

13:09

Mitja

As part of the Node EE delivery of course

B

13:09

Bam

@Futurizt That's great -- thank you for confirming

13:09

We look forward to leveraging that tool

B

14:46

Bam

Hi @Futurizt - Another follow-up regarding one of the questions, "Is there an API call to the full node that returns a given account's balance along with the block height at which that balance was calculated"

Thanks for your response on this, as the graphql query example is helpful to us. However, it's not quite what we are asking for. Your response gives us the height at which the account was last transacted with, however the height we are looking for is the _latest height for which that balance is valid for_. Essentially, at what recent block height does this state represent?

An example: Consider a chain with a current block height (chain tip) of 9 and an account that has a last transaction from height 5. This account had a balance of 100 grams after the previous transaction. Now there is a block with height 10 that gets added and a new transaction is included which deposits an additional 100 grams into this account. So at height 9 the balance is 100, and after 10 it is 200.

When we are polling this account state between blocks 9 and 10, we need to know for which height that account state is valid for, not just the previous transaction, else we never really know how to correlate the account balance to the current chain state. So ideally we could say "give us the account state for block height 9", and "give us the account state for block height 10",

and even better if you can just include that block height in the response directly. Does this make sense? We call this "atomic balance lookup" internally.

LA

15:27

Leo Arias

In reply to [this message](#)

Sticker

Not included, change data exporting settings to download.

♥, 16.3 KB

15:27

That's awesome!

27 September 2019

B

07:43

Bam

Hi @prigolovko @Futurizt - Could we set up a technical call with you early next week? I think it would be great to have a call to hash out some of the current questions and save the back and forth on chat. I understand we are in different time zones and we'd be willing to accomodate a time that is convenient for your team. Thank you in advance! cc @nemild

PP

09:54

Pavel P

Sure. Tuesday (1 Oct) evening from 7 to 10 pm Moscow time would be great.

AF

10:09

Alexander Filatov

In reply to [this message](#)

Which is 9 to 12 am PST

B

11:36

Bam

I think 7pm Moscow time would be great for us (9a PST). Would 1hr 30m be OK for you? So meeting ending at 8:30p moscow time?

11:37

If so, I can send an invite to some folks on your team if you share an email address. Thank you for helping to coordinate this ☐

☐

PP

11:45

Pavel P

In reply to [this message](#)

Agreed.

B

11:59

Bam

Thanks all. Looking forward to the discussion. Could you share an email address for us to send an invite to?

M

12:11

Mitja

In reply to [this message](#)

My email is mitja@tonlabs.io

AF

12:26

Alexander Filatov

a.filatov@tonlabs.io

B

12:34

Bam

Thank you!

D

12:52

Dmitry

d.malyugin@tonlabs.io

B

12:53

Bam

[@Alexander_Filatov](#) I included a.filatov@tonlabs.io in the invite. Feel free to forward that invite to relevant folks on your team.

PP

13:19

Pavel P

P.prigolovko@tonlabs.io

B

14:05

Bam

Thanks all

M

15:37

Mitja

T

TON.Dev 27.09.2019 15:32:26

And, as usual, [new update](#) of Node SE.

Client Libraries

- To save gas, dynamic arrays are now passed as dictionaries using HashmapE type from the TVM specification. Previously, these were passed as contract function parameters (far more gas consumed);
- Queries module and local TVM call function added to the Rust Client.

Compiler Kit

Solidity compiler:

- Added support for the fallback function;
- Optimized array storage format. Deserialization of an array now consumes way less gas than before;
- Improved error reporting.

Local Node optimizations were made.

28 September 2019

B

10:33

Bam

☐ Thanks for the update

1 October 2019

B

12:51

Bam

Hi folks - Is the 0.12.0 version of ton-dev-cli available yet? I don't see it on NPM. Thanks.

12:51

Or is that unreleased?

PP

14:04

Pavel P

I guess there should be a release tomorrow. Mitja, could you please comment on that?

Alexander Filatov
16 September 2019

AF

21:56

Alexander Filatov

Zach, Hi

21:56

Alex Filatov, CEO of TON Labs

21:59

I am in NYC for the next couple of days and was wondering if we could touchbase live over a cup of coffee if you are here and have time on Wed?

22:00

(Or tomorrow)

Z

22:04

Zach Segal

Hello Alex

22:04

We are in SF but happy to do a video chat this week

22:05

Was also hoping to connect, so am glad you reached out.

AF

22:05

Alexander Filatov

Ah, indeed. Why did I think you were in NY...

Z

22:06

Zach Segal

We do have an office there but our HQ is in SF

AF

22:06

Alexander Filatov

So can do strategic questions here, otherwise let's continue on tech issues in the chat

22:07

(And do a video chat after we send you the "link to TON" architecture by Wednesday)

Z

22:08

Zach Segal

□

22:10

Great, we will have a few strategic questions for you by Wednesday. Shall we put some time on the calendar now? We are available (NY time) 2:30-4pm and 6:30-8pm

22:14

(We can do a Telegram chat for some, but a Telegram call will be easier for a few lengthy questions)

AF

22:42

Alexander Filatov

Zach, that's tomorrow or Wed? Suggest we plan smth for Wed! Would love to get my CTO as well (he is flying tomorrow) to make sure we can cover all questions. What are your availabilities on Wed?

Z

22:43

Zach Segal

□Weds would be best. Those times are all on Weds 9/18

AF

22:47

Alexander Filatov

2.30 pm on 9/18 sounds very good. Will doubleconfirm tomorrow am. Ok?

22:51

But let's put into the calendars already. 99% confirmed. Waiting for my core team to wake up.

Z

23:01

Zach Segal

Sounds good. I'll mark it down

17 September 2019

AF

11:09

Alexander Filatov



11:10

Zach, just for my clarity (pls see attached screenshot). Our call is to cover technical integration, right? Although we are happy to discuss everything else as well. Would Nick be joining?

11:11

A question of partnership on the liquidity exchange etc. should probably be a separate call with our sister company -

gramvault.com

18 September 2019

AF

07:30

Alexander Filatov

Zach, good morning. 11-30 pt call today confirmed?

AF

08:30

Alexander Filatov

Node_EE_product_brochure.pdf

Not included, change data exporting settings to download.

4.4 MB

08:31

In reply to [this message](#)

This was shared in the chat

Z

08:52

Zach Segal

In reply to [this message](#)

Yes

AF

10:39

Alexander Filatov

What's your preference? Shall I generate a zoom link?

10:44

My partner already actually sent a link into the chat

Z

10:47

Zach Segal

Hi Alexander I had some strategic and legal questions for this call

10:47

Are you thinking this is more a technical call?

AF

10:47

Alexander Filatov

Yes, we can keep it strategic of course

Z

10:48

Zach Segal

I may not have any engineers on the line

AF

10:48

Alexander Filatov

No problem

Z

10:48

Zach Segal

We do plan on submitting a separate doc to discuss tech matters

10:48

Ok thanks

AF

10:48

Alexander Filatov

□

AF

11:32

Alexander Filatov

<https://zoom.us/j/2818424760>

Z

11:32

Zach Segal

Coming

Z

12:04

Zach Segal

zach.segal@coinbase.com

Z

18:37

Zach Segal

Could I get your email Alexander? Going to send you a few things shortly

Z

19:05

Zach Segal

Hi Alexander

We are in the midst of our TON Labs Rust Telegram node implementation and wanted to confirm that this node would behave similarly to the official TON node. We're about to share the doc with you — as soon as I get your email. Could your team fill this out, and then we can schedule time to discuss? Ideally, it'd be great to discuss these questions sometime on Friday.

One question to flag for you. What testing has been done to date to confirm that your full node will be at feature parity with the official TON full node? Is there a test suite (and possibly a feature matrix) that we can use to compare the two node implementations?

19:09

I should also mention that this does not mean we are confirmed to be adding support — we are only exploring at this time. We will assess against factors like security and compliance, with an official decision on whether we will be supporting the network coming later down the line. This is, however, critical to us in our exploration of the network so we appreciate your

help

AF

19:37

Alexander Filatov

In reply to [this message](#)

a.filatov@tonlabs.io

19:39

In reply to [this message](#)

Thanks, Zach, well received. Shall we reply in the chat or you prefer here?

Z

19:40

Zach Segal

The doc is big so I recommend downloading it and filling it in

19:40

Sending shortly

AF

19:41

Alexander Filatov

Ok

Z

19:48

Zach Segal

Sent. Thanks again

AF

19:49

Alexander Filatov

Yeap, received

19 September 2019

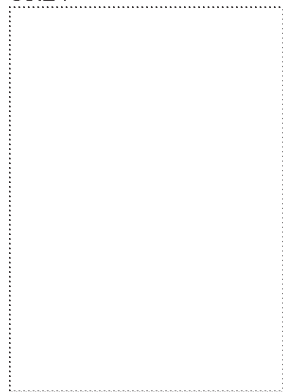
AF

09:23

Alexander Filatov



09:24



09:24

As promised

Z

09:31
Zach Segal
Thanks
3 October 2019

Z

10:43
Zach Segal
Hi Alexander will Gram tokens have a GRAM or GRM ticker symbol?

AF

11:55
Alexander Filatov
Zach, Hi, didn't check. Let me do that.

AF

23:17
Alexander Filatov
Ещё, кстати, меня Coinbase отдельно спрашивает:
23:17
Hi Alexander will Gram tokens have a GRAM or GRM ticker symbol?
23:17
GRM?
23:18
Zach, sorry, was writing to the Telegram team :), will revert

Z

23:18
Zach Segal
No problem. Thanks! We've seen both GRM and GRAM and wanted to know which we should use

AF

23:19
Alexander Filatov
I thing it's GRM, doubleconfirming
9 October 2019

Z

12:24
Zach Segal
Hi Alexander can you confirm it's GRM?

AF

17:32
Alexander Filatov
Yes, Zach!
17:32
Sorry for responding slow, too much travel in the last few days.

Z

19:42
Zach Segal
Thank you Alexander
19:43
We published a blog post today pre-announcing our intent to support Telegram Open Network for Coinbase Custody
10 October 2019

AF

02:04
Alexander Filatov
In reply to [this message](#)
Yeap, that's great!

TON Labs/Coinbase Business

1 October 2019

Nemil Dalal created group «TON Labs/Coinbase Business» with members Nemil Dalal, Alexander Filatov and Zach Segal

ND

20:35

Nemil Dalal

@Alexander_Filatov thanks for sending the doc on the node. We are interested to proceed on the stake + service, but would like to quickly review the open source enterprise node to make sure it meets our needs. If it's not yet open source, we are happy to sign an NDA. Does that work?

20:35

(Let's also use this channel for discussions on the business side)

2 October 2019

AF

12:27

Alexander Filatov

In reply to this message

@nemild Hi, yes we can do that quickly. Let me add my two business partners here and we will send NDA/SEA here in the next couple of hours.

Alexander Filatov invited Dmitry

Alexander Filatov invited Pavel P

ND

12:49

Nemil Dalal

Great, ideally we can complete and get code within 24 hours. The timelines are so tight with the TON launch, that we don't want to lose another day

12:50

Please feel free to call on Telegram if anything I can quickly answer

AF

12:51

Alexander Filatov

Its coming your way shortly 😊

ND

12:53

Nemil Dalal

Отлично